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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,960	06/15/2001	Jean-Pierre Weber	027557-093	5975

7590 04/19/2005  
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EXAMINER

LI, SHI K

ART UNIT PAPER NUMBER

2633

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/880,960

Applicant(s)

WEBER ET AL.

Examiner

Shi K. Li

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2005 and 26 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4 and 6-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 6-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 January 2005 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwano (U.S. Patent 5,644,423) in view of Dieckröger et al. (J. Dieckröger et al., "Thermooptically Tunable Optical Phased Array in SiO<sub>2</sub>-Si", IEEE Photonics Technology Letters, Vol. 11, No. 2, February 1999).

Iwano discloses in FIG. 4 a system for monitoring WDM channels. FIG. 4 comprises an optical variable filter 13 with a control means connected to receive a control signal from optical filter controller 16, an opto-electrical converter (detector of instant claim) to receive the output optical signal from the variable filter. The optical filter controller receives detector signal from the detector via low-pass filter 18 and synchronous detector 19. Iwano teaches in col. 4, lines 65-67 to vary the filter so that a plurality of selected signals are output in turn from the filter to

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the detector. The difference between Iwano and the claimed invention is that Iwano does not teach to use phased-array optical wavelength demultiplexer as the variable filter. Dieckröger et al. teaches in FIG. 1 a thermooptically tunable phased array filter. One of ordinary skill in the art would have been motivated to combine the teaching of Dieckröger et al. with the monitoring system of Iwano because the phased array filter of Dieckröger et al. has high tuning efficiency and stable operation. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a phased-array waveguide demultiplexer as a variable filter, as taught by Dieckröger et al., in the monitoring system of Iwano because the phased array filter of Dieckröger et al. has high tuning efficiency and stable operation.

Regarding claim 2, Dieckröger et al. teaches in FIG. 2 to use heater for tuning the phased-array waveguide demultiplexer.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwano and Dieckröger et al. as applied to claims 1-2 above, and further in view of Podoleanu et al. (U.S. Patent 5,975,697).

Iwano and Dieckröger et al. have been discussed above in regarding to claims 1-2. The difference between Iwano and Dieckröger et al. and the claimed invention is the operation mechanism of the phase control means. Podoleanu et al. teaches in col. 11, lines 1-7 that electro-optical, acousto-optical or magneto-optical mechanism can be used to change phase. These mechanisms are equivalents. Where the claimed differences involve the substitution of interchangeable or replaceable equivalents and the reason for the selection of one equivalent for another was not to solve an existent problem, such substitution has been judicially determined to have been obvious. See *In re Ruff*, 118, USPQ 343 (CCPA 1958). Therefore, it would have

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been obvious to one of ordinary skill in the art at the time of the invention to replace thermo-optic phase control means with electro-optic phase control means, acousto-optic phase control means or magneto-optic phase control means, as taught by Podoleanu et al., in the modified WDM wavelength monitoring system of Iwano and Dieckröger et al. because they are equivalents.

5. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwano and Dieckröger et al. as applied to claims 1-2 above, and further in view of Weber (PCT Application Pub. WO 99/12297).

Iwano and Dieckröger et al. have been discussed above in regarding to claims 1-2. Regarding claim 6, the difference between Iwano and Dieckröger et al. and the claimed invention is the operation mechanism of the phase control means. Weber lists in page 7, lines 9-16 a number of operation mechanisms and teaches in page 18, line 15-page 19, line 11 electro-optic effect and plasma effect for operation mechanism for a phase control means. These mechanisms are equivalent. Where the claimed differences involve the substitution of interchangeable or replaceable equivalents and the reason for the selection of one equivalent for another was not to solve an existent problem, such substitution has been judicially determined to have been obvious. See *In re Ruff*, 118, USPQ 343 (CCPA 1958). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace thermo-optic phase control means with electro-optic phase control means or plasma phase control means, as taught by Weber, in the modified WDM monitoring system of Iwano and Dieckröger et al. because they are equivalents.

Regarding claim 7, the difference between Iwano and Dieckröger et al. and the claimed invention is that Iwano and Dieckröger et al. do not teach to integrate the phasar device and other active devices and electronic circuits in a single integrated device. Weber teaches in page 8, lines 13-16 to integrated a phasar device with active elements and/or electronic circuits. One of ordinary skill in the art would have been motivated to combine the teaching of Weber with the modified WDM wavelength monitoring system of Iwano and Dieckröger et al. because integrating the phasar, active elements and electronic circuits together increases the reliability and lowers the manufacturing and assembly cost of the monitoring circuit. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the phasar, active elements and electronic circuits together in a single integrated device, as taught by Weber, in the modified WDM wavelength monitoring system of Iwano and Dieckröger et al. because it increases the reliability and lowers the manufacturing and assembly cost of the monitoring circuit.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwano and Dieckröger et al. as applied to claims 1-2 above, and further in view of Komiyama et al. (U.S. Patent 6,477,190 B1).

Iwano and Dieckröger et al. have been discussed above in regarding to claims 1-2. The difference between Iwano and Dieckröger et al. and the claimed invention is that Iwano and Dieckröger et al. do not teach a compensation means for adjusting the control signal on the basis of the temperature of the tunable filter. Komiyama et al. teaches in FIG. 24 and col.11, lines 7-25 a temperature control mechanism for controlling tunable filter wherein the temperature of the tunable filter is compared with the desired temperature for generating a temperature control

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signal for adjusting the temperature of the tunable filter to obtain a desirable wavelength. One of ordinary skill in the art would have been motivated to combine the teaching of Komiyama et al. with the modified WDM monitoring system of Iwano and Dieckröger et al. because the approach of Komiyama et al. gives accurate temperature control regardless of the ambient temperature of equipment. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use compensation means for adjusting control signal on the basis of the temperature of the tunable filter, as taught by Komiyama et al., in the modified WDM monitoring system of Iwano and Dieckröger et al. because the approach of Komiyama et al. gives accurate temperature control regardless of the ambient temperature of equipment.

#### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-2, 4 and 6-8 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

skl  
13 April 2005



**Shi K. Li**  
**Patent Examiner**